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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/472,635	12/27/1999	STANLEY K. HONEY		9019

				EXAMINER
28554	7590	12/03/2004		GENCO, BRIAN C

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ART UNIT	PAPER NUMBER
2615	

DATE MAILED: 12/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	**Applicant(s)**	
Office Action Summary	09/472,635	HONEY ET AL.	
	Examiner	**Art Unit**	
	Brian C Genco	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _05 January 2004_.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-63_ is/are pending in the application.
   4a) Of the above claim(s) _43-53 and 58-63_ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1-42 and 54-57_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a)☐ All   b)☐ Some * c)☐ None of:
   1.☐ Certified copies of the priority documents have been received.
   2.☐ Certified copies of the priority documents have been received in Application No. _____.
   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _9_.
4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

The examination of this application is now being conducted by Brian Genco.

Applicant's amendments and arguments have overcome the 35 U.S.C. 112 rejections presented previously.

Upon further search and consideration of the art of record the allowability of claims 32-34 is herein withdrawn. New grounds of rejection are presented herein bellow.

Information Disclosure Statement

The information disclosure statement filed January 5, 2004 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. The US patents listed therein have been considered, however, none of the foreign patents have been considered.

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I.   Claims 43-53 and 58-63, drawn to editing of live broadcasts, classified in class 348, subclass 584.

II.   Claims 1-42 and 54-57, drawn to mechanical motion detection, classified in class 348, subclass 208.2.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as subcombinations disclosed as usable together in a single

combination. The subcombinations are distinct from each other if they are shown to be

separately usable. In the instant case, invention I has separate utility such as editing live

broadcast video. See MPEP § 806.05(d).

Because these inventions are distinct for the reasons given above and have acquired a

separate status in the art as shown by their different classification, restriction for examination

purposes as indicated is proper.

During a telephone conversation with David Cromer on September 15, 2004 a

provisional election was made without traverse to prosecute the invention II, claims 1-42 and 54-

57. Affirmation of this election must be made by applicant in replying to this Office action.

Claims 43-53 and 58-63 are withdrawn from further consideration by the examiner, 37

CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found

in a prior Office action.

Claims 1-15, 17-19, 21, 22, 24-33, 37, 39, 40, and 54-57 are rejected under 35 U.S.C.

103(a) as being unpatentable over (USPN 6,100,925 to Rosser et al.) in view of (USPN

5,649,237 to Okazaki).

In regards to claim 1 Rosser discloses a system for using sensors with a camera, said

camera being part of a camera assembly, said camera assembly including a fixed portion (e.g.,

the transition module of Fig. 18 described on column 20, lines 36-37) and a movable portion

(e.g., the camera 110 of Fig. 18), said system comprising:

a first sensor coupled to said camera assembly, said first sensor measures movement of

said movable portion relative to said fixed portion (e.g., tilt sensor 144 or panning sensor 140 of

Fig. 13).

Rosser further discloses that accelerometers are attached to the transition module to

measure translational movement in the x-axis and y-axis directions (column 20, lines 33-49).

Rosser does not disclose nor preclude that the accelerometers are inclinometers.

Okazaki discloses the outputs of accelerometers to measure translational movements also

include gravitational and rotational components (column 4, line 34 – column 5, line 39). As

such, in addition to the accelerometers there are angular rate detectors to measure the rotational

components and a gravitational component calculating device for calculating and eliminating the

gravitational effects imposed on the accelerometers. This provides for detection of translational

movement without the effects of gravity, as well as the detection of rotational movement so as to

fully detect the movement of the image (column 5, lines 34-39 and lines 49-53; column 7, lines

11-19). Examiner notes that the combination of the angular rate detectors and their

corresponding integrators are inclinometers (column 5, lines 36-39). Therefore it would have

been obvious to one of ordinary skill in the art at the time of the invention to have utilized the

sensors of Okazaki on Rosser's fixed portion in order to eliminate the gravitational influence

imposed on Rosser's accelerometers as well as to include measurements of rotation angles such

that the movement of the image can be corrected properly.

In regards to claim 2 Rosser discloses said first sensor measures rotation of said movable portion about a first axis (e.g., the horizontal axis 146 or the vertical axis 142 as shown in Fig. 13).

In regards to claim 3 Rosser in view of Okazaki disclose said first inclinometer measures a component of the movement of said first axis (e.g., the integration of the rate of rotation about an axis is a measurement of movement of another axis. For example, a measurement of the rotation angle about the x-axis is a measurement of the movement of the y- and z-axis).

In regards to claim 4 Rosser discloses that said first sensor is an optical encoder (e.g., column 15, lines 30-33).

In regards to claim 5 Rosser in view of Okazaki discloses a second inclinometer coupled to said camera assembly, said first inclinometer and said second inclinometer are used to measure an orientation of said camera assembly (e.g., Examiner notes that Okazaki discloses inclinometers for at least the x- and y-axis as shown in the embodiments illustrated in Figs. 1, 5, and 6).

In regards to claim 6 Rosser in view of Okazaki discloses said first sensor is coupled to said movable portion (e.g., elements 140 and 144 of Figs. 13 are coupled to the camera of Rosser); and said first and second inclinometers are coupled to said fixed portion (e.g. elements 160 and 164 of Fig. 18 of Rosser, wherein the sensors of Okazaki would be placed in the fixed portion of Rosser so as to eliminate the gravitational and rotational effects of the accelerometers 160 and 164 of Rosser).

In regards to claim 7 Rosser in view of Okazaki disclose said first sensor measures panning of said camera (e.g., element 140 of Fig. 13 of Rosser); said first inclinometer measures

roll of said fixed portion; and said second inclinometer measures pitch of said fixed portion (e.g.,

the angular rate detectors about the x- and y- axis and their corresponding integrators measure

roll and pitch).

In regards to claim 8 see Examiners notes on the rejection of claim 7 wherein Rosser

discloses said first sensor measures tilting of said camera (e.g., element 144 of Fig. 13).

In regards to claim 9 Rosser in view of Okazaki discloses data from said first sensor is

combined with data from said first inclinometers and said second inclinometer in order to

describe said camera's orientation (e.g., Rosser discloses adding the detected movement of the

tripod to the pan and tilt movements; column 20, lines 43-49. When combined with the teaching

of Okazaki the outputs of the inclinometers and other sensors are combined with the outputs of

the first sensor to determine the camera's orientation without the effects of gravity and rotational

movements on the sensors).

In regards to claim 10 Rosser in view of Okazaki discloses data from said first sensor is

combined with data from said first inclinometer and said second inclinometer, said combined

data is used to transform a location in a first coordinate system to a position in a second

coordinate system (e.g., Rosser discloses to add the shift of the tripod to the pan and tilt sensor so

as to detect a position in a two dimensional second coordinate system (namely a location in a two

dimensional coordinate system to insert a graphic; Fig. 10 and column 14, line 60 – column 15,

line 29; column 16, lines 33-39; column 20, lines 33-49). The combination of references teach to

determined the shift of the camera assembly based on the location measured in a three

dimensional first coordinate system by the attitude determination, namely the integrated amount

of shift along the x-, y-, and z-axes, and the integrated amount of rotation about the x-, y-, and z-

axes; note that Okazaki discloses determining the amount of three-dimensional movement of the camera; column 6, lines 27-31; As such, the determination of the movement in a three-dimensional space of the camera it is calculated how much two dimensional movement of the image takes place such that the graphic inserted into the image is in the correct location).

In regards to claim 11 see Examiners notes on the rejections above wherein Rosser discloses first and second sensors through both pan and tilt sensors 140 and 144 to measure movement about a first and second axes wherein the rotational angles of each of the axis measure the movement of the first and second axes.

In regards to claim 12 Okazaki discloses determining translational and rotational components of movement via a first inclinometer and Rosser discloses determining an orientation based on the first senor and adding it to the detected orientation of the movement of the tripod to determine an overall orientation of the camera. Examiner notes that the claimed processor is inherent in Rosser.

In regards to claim 13 see Examiners notes on the rejections above, and in particular the rejection of claim 10.

In regards to claim 14 Rosser discloses the system according to claim 1, wherein:

said fixed portion includes a tripod and a tripod head interface (e.g., the transition module of Rosser; column 20, lines 36-37);

said movable portion includes at least a portion of a tripod head and said camera (e.g., the connections between the camera and the transition module and the camera itself; column 20, lines 36-37);

said first sensor is coupled to said tripod head (e.g., the first sensor is implicitly coupled

to the tripod head in order to measure the relative movement between the fixed and movable

portions);

said first inclinometer is coupled to said tripod head interface (e.g., the combination of

Rosser and Okazaki disclose to place the inclinometer in the transition module of the tripod).

In regards to claim 15 see Examiners notes on the rejections above. Note that the data

read from the first sensor and inclinometer are inherently packaged for transmission to a

processor since the data is processed to determine the camera orientation.

In regards to claim 17 Rosser in view of Okazaki disclose a system according to claim 1,

further comprising:

a second inclinometer coupled to said camera assembly (e.g., Okazaki discloses angular

rate detector and integrator pairs for at least the x- and y-axis and as such provides at least two

inclinometers), said first inclinometer is mounted in a first plane (e.g., a first plane such that the

angular rate about one of the x- or y-axis is detected), said second inclinometer is mounted in a

second plane (e.g., a second plane such that the angular rate about the other of the x- or y-axis is

detected), said first plane being orthogonal to said second plane (e.g., the planes would be

orthogonal to each other in order to detect rotation about the orthogonal x- and y-axis);

a second sensor coupled to said movable portion (e.g., the other of the pan or tilt sensor),

said first sensor and said second sensor are optical encoders (e.g., column 15, lines 30-33 of

Rosser), said first sensor measures rotation of said movable portion about a first axis (e.g., one of

the pan or tilt sensor measures the rotation about the x- or y-axis), said second sensor measures

rotation of said movable portion about a second axis (e.g., the other of the pan or tilt sensor

measures the rotation about the x- or y-axis), said first and second inclinometers measure

movement of said first axis and said second axis (e.g., the calculation of a rotation angle about an

axis by the inclinometers a measurement of movement of another axis. For example, a

measurement of the rotation angle about the x-axis is a measurement of the movement of the y-

and z-axis);

a processor programmed to combine data from said first inclinometer, said second

inclinometer, said first sensor, and said second sensor in order to describe an orientation of said

camera, said processor is in communication with said first inclinometer, said second

inclinometer, said first sensor, and said second sensor (e.g., the combination of Rosser and

Okazaki disclose to add the movements detected by the sensors of Okazaki to the pan and tilt

sensors of Rosser in order to correct for total movement of the camera; note the claimed

processor is shown in Rosser through element 118 of Fig. 10 and shown in Okazaki through

elements 9-11 of Figs. 1, 5, and 6).

In regards to claim 18 Rosser in view of Okazaki disclose a system according to claim

17, further comprising:

a first angular rate detector in communication with said processor (e.g., one of angular

rate detectors 4 or 5 wherein the processor element 9 of Okazaki is in direct communication with

the rate detectors and processor elements 10 and 11 are in indirect communication with the rate

detectors); and

a second angular rate detector in communication with said processor (e.g., the other of

angular rate detectors 4 or 5), said processor combines data from said first angular rate detector

and said second angular rate detector with data from said first inclinometer, said second

inclinometer, said first sensor, and said second sensor (e.g., the processor elements 9 and 10

utilize the outputs of the gyros to subtract out gravitation forces from the acceleration detector

sensors whose outputs are then fed into the processor element 11 and combined with the outputs

of the inclinometers to detect movement of the image. Further, the combination of Rosser and

Okazaki disclose to add the outputs of the movement detection of Okazaki with the outputs of

the pan and tilt sensors to detect the total camera movement for detecting the movement of the

image).

Examiner notes page 8, lines 3-18 of Applicant's disclosure wherein the gyro does not

solve any stated problem, it merely measures the angular rate. In particular note lines 6-8

wherein Applicant discloses that another sensor that measures change in angle or angular rate

may be used. Official Notice is taken that a gyro is a type of angular rate detector that performs

equally as well as an angular rate detector and it is within the level of one skilled in the art to

select any of the angular rate detector or gyro. Therefore it would have been obvious to one

skilled in the art at the time of the invention to have utilized a gyro since a gyro is a type of

angular rate detector that performs equally as well as a angular rate detector and it is within the

level of one skilled in the art to select any of the angular rate detector or gyro.

In regards to claim 19 see Examiners notes on the rejections above. Note that the

inclination is an absolute measurement with respect to gravity (column 4, line 64 – column 5,

line 8; Okazaki).

In regards to claim 21 see Fig. 10 of Rosser and column 14, line 60 – column 15, line 29.

In regards to claims 22 and 24 see Examiners notes on the rejections above.

In regards to claim 25 see Examiners notes on the rejections above. Note that the angular rate detectors, or gyro's, are utilized in determining the attitude of the camera.

In regards to claim 26 see Examiners notes on the rejection of claim 18. Official Notice is taken that an optical gyro is a type of gyro that performs equally as well as a gyro and it is within the level of one skilled in the art to select any of the gyro or optical gyro. Therefore it would have been obvious to one skilled in the art at the time of the invention to have utilized an optical gyro since an optical gyro is a type of gyro that performs equally as well as a gyro and it is within the level of one skilled in the art to select any of the gyro or optical gyro.

In regards to claims 27-31 see Examiners notes on the rejections above.

In regards to claim 32 Rosser discloses a system for using attitude sensors with a camera, said camera being part of a camera assembly, said camera assembly including a fixed portion (e.g., the transition module of Fig. 18 described on column 20, lines 36-37) and a movable portion (e.g., the camera 110 of Fig. 18), said system comprising:

a first sensor coupled to said camera assembly, said first sensor measures movement of said movable portion with respect to said fixed portion (e.g., tilt sensor 144 or panning sensor 140 of Fig. 13);

a second sensor coupled to said camera assembly (e.g., the other of the pan or tilt sensor), said first sensor measures movement of said movable portion with respect to said fixed portion along a first axis (e.g., one of the pan or tilt sensor measures the rotation about the x- or y-axis), said second sensor measures movement of said movable portion with respect to said fixed portion along a second axis, said first axis is different from said second axis (e.g., the other of the pan or tilt sensor measures the rotation about the x- or y-axis).

Rosser further discloses that accelerometers are attached to the transition module to measure translational movement in the x-axis and y-axis directions (column 20, lines 33-49).

Rosser does not disclose nor preclude that the accelerometers are inclinometers.

Okazaki discloses the outputs of accelerometers to measure translational movements also include gravitational and rotational components (column 4, line 34 – column 5, line 39). As such, in addition to the accelerometers there are angular rate detectors to measure the rotational components and a gravitational component calculating device for calculating and eliminating the gravitational effects imposed on the accelerometers. This provides for detection of translational movement without the effects of gravity, as well as the detection of rotational movement so as to fully detect the movement of the image (column 5, lines 34-39 and lines 49-53; column 7, lines 11-19). Examiner notes that the combination of the angular rate detectors and their corresponding integrators are inclinometers (column 5, lines 36-39). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the sensors of Okazaki on Rosser's fixed portion in order to eliminate the gravitational influence imposed on Rosser's accelerometers as well as to include measurements of rotation angles such that the movement of the image can be corrected properly.

As such, the combination discloses a first inclinometer coupled to said camera assembly, said first inclinometer capable of measuring attitude information in a first plane fro said camera assembly (e.g., any one of the x-, y-, or z-planes as shown in Fig. 6 of Okazaki; column 6, lines 27-31);

a second inclinometer coupled to said camera assembly (e.g., Okazaki discloses angular rate detector and integrator pairs for the x-, y-, and z-axis and as such provides at least two

inclinometers), said second inclinometer capable of measuring attitude information in a second

plane for said camera assembly (e.g., a second plane such that the angular rate about another of

the x-, y-, or z-axis is detected), said first is different from said second plane (e.g., the planes

different from each other in order to detect rotation about the x-, y-, and z-axis);

a first angular rate detector coupled to said camera assembly, said first gyro measures

attitude information of at least a first portion of said camera assembly (e.g., one of angular rate

detectors 4, 5, or 6 wherein the outputs of the angular rate detectors are feed into an attitude

determining device 9. The combination of Rosser and Okazaki suggest that the accelerometers

and angular rate detectors of Okazaki would be placed in the transition module of Rosser's

camera assembly and as such the angular rate detectors would measure the attitude of the fixed

portion of the camera assembly); and

a second angular rate detector coupled to said camera assembly (e.g., another of angular

rate detectors 4, 5, or 6), said second gyro capable of measuring attitude information in a third

plane for at least said portion of said camera assembly (e.g., one of the x-, y-, or z-plane), said

first gyro measures attitude information in a fourth plane for at leas said portion of said camera

assembly (e.g., another of the x-, y-, or z-planes), said third plane is different from said fourth

plane (e.g., each of the x-, y-, and z-planes are different from each other).

In regards to claim 33 Rosser in view of Okazaki disclose a system according to claim

32, further comprising:

one or more processors receiving and combining data from said first gyro, said second

gyro, said first inclinometer, said second inclinometer, said first sensor, and said second sensor

(e.g., the combination of Rosser and Okazaki disclose to add the movements detected by the

sensors of Okazaki to the pan and tilt sensors of Rosser in order to correct for total movement of the camera; note the claimed processor is shown in Rosser through element 118 of Fig. 10 and shown in Okazaki through elements 9-11 of Figs. 1, 5, and 6).

said one or more processors use said combined data to add a graphic to a video image from said camera at a first position in said video image, said graphic corresponds to a three dimensional location within a field of view of said camera, said three dimensional location corresponds to said first position in said video image (e.g., Rosser discloses adding a graphic to a video image based on a position in the image and any movement of the camera; Fig. 10 and column 14, line 60 – column 15, line 29; column 16, lines 33-39; column 20, lines 33-49. Examiner notes that since the camera of Rosser is viewing a live scene it is a three dimensional scene wherein the location that the graphic is added implicitly corresponds to a three dimensional location within the scene).

In regards to claims 37, 39, 40, and 54-57 see Examiners notes on the rejections above.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over (USPN 6,100,925 to Rosser et al.) in view of (USPN 5,649,237 to Okazaki) in view of (USPN 4,084,184 to Crain).

In regards to claim 20 see Examiner's note on the rejections above. Note that the combination of Rosser and Okazaki disclose to utilize the measurements of various sensors to detect movement of a camera assembly in a three-dimensional space and transform that movement into a two dimensional movement of an image generated by the camera such that a graphic can be inserted into a correct location. Rosser and Okazaki does not disclose nor preclude that this correlation between the camera movement and image movement is performed

by creating one or more transform matrices using said image data from said first sensor and said

data from said first inclinometer.

Crain discloses transforming a three dimensional location of a camera into a two

dimensional location on an image generated by the camera such that graphics may be added to

the image data in a correct location utilizing multivariable equations for performing the

transformation (e.g., column 2, lines 15-22; column 3, line 42 – column 4, line 40). Examiner

notes that matrices are a representation of multivariable equations. Therefore it would have been

obvious to one skilled in the art at the time of the invention to have utilized the multivariable

equations of Crain in order to accomplish the transformation of three-dimensional movement of

a camera into a two dimensional location in an image such that graphics can be added in a

correct location.

Claims 16, 23, 34, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over

(USPN 6,100,925 to Rosser et al.) in view of (USPN 5,649,237 to Okazaki) in view of (USPN

5,462,275 to Lowe).

In regards to claim 16 Rosser discloses sending all of the camera sensors to a processor in

Fig. 10, however, does not disclose nor preclude that the data is sent over an audio channel.

Lowe discloses encoding camera motion data into an audio channel in synchronization with the

video to ensure proper insertion in the video sequence (column 2, lines 23-29). Therefor it

would have been obvious to one of ordinary skill in the art at the time of the invention to have

encoded the camera motion data generated by Rosser and Okazaki into an audio channel in

synchronization with the video to ensure proper insertion in the video sequence.

In regards to claim 23 see Examiners notes on the rejections above.

In regards to claim 34 see Examiners notes on the rejections above. Note that the extractor is implicit in the teaching of Lowe so as to be able to utilize the audio encoded data.

In regards to claim 41 see Examiners notes on the rejections above.

Claims 35, 36, 38, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over (USPN 6,100,925 to Rosser et al.) in view of (USPN 5,649,237 to Okazaki) in view of (USPN 5,534,967 to Matsuzawa).

In regards to claims 35, 36, 38, and 42 neither Rosser nor Okazaki disclose to compensate for drift or offset of the angular rate detectors, or gyro's. Matsuzawa discloses to apply a high pass filter to the output of a gyro in order to remove low-frequency drift and offset components (column 13, lines 23-29). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have added Matsuzawa's high pass filter unit 71 to the output of the angular rate detectors in order to remove low-frequency drift and offset components.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian C. Genco who can be reached by phone at 703-305-7881 or by fax at 703-746-8325. The examiner can normally be reached on Monday thru Friday 8:30am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Andrew Christensen can be reached on 703-308-9644. The fax phone number for the

organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the customer service office whose telephone number is 703-308-4357.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian C Genco
Examiner
Art Unit 2615

November 22, 2004

ANDREW CHRISTENSEN
SUPERVISORY PATENT EXAMINER
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